

**Table A2.2.** Summary of functional group categorization of the 64 tested isolates  
(60 endophytes + four control bacteria).

<b>Isolate</b>	<b>Average Phosphorus</b>	<b>Standard Deviation Phosphorus</b>	<b>Average Siderophore</b>
HA-018	0.22	0.02	0.00
HA-019	0.11	0.02	0.00
HA-022	0.51	0.18	0.18
HA-025	0.55	0.05	3.00
HA-028	0.14	0.01	0.76
HA-029	0.10	0.00	0.00
HA-030	0.04	0.01	0.00
HA-033	0.00	0.00	0.34
HA-038	0.14	0.00	5.70
WV-042	0.00	0.00	0.00
WV-044	0.07	0.01	0.00
WV-045	0.00	0.00	0.10
WV-046	0.59	0.14	1.98
WV-051	0.25	0.02	0.06
WV-053	0.10	0.00	0.00
WV-058	0.00	0.00	0.02
WV-059	0.46	0.08	3.90
WV-060	0.06	0.01	0.22
HA-064	0.09	0.01	0.05
HA-066	1.00	0.05	2.81
HA-067	0.09	0.03	0.40
HA-071	0.04	0.00	0.00
HA-076	0.06	0.00	0.00
HA-077	0.04	0.00	0.00
HA-078	0.07	0.01	0.00
HA-081	0.61	0.10	5.04
HA-084	0.25	0.02	0.06
HA-088	0.22	0.01	1.96
HA-089	0.12	0.02	0.00
HA-091	0.00	0.00	0.01
WV-094	0.09	0.01	0.10
WV-098	0.00	0.00	0.30
WV-099	0.21	0.01	0.64
WV-100	0.00	0.00	0.07
WV-101	0.65	0.05	0.26
WV-102	0.21	0.03	0.00
WV-104	0.10	0.01	0.00
WV-109	0.39	0.03	4.03
WV-110	0.05	0.00	0.44
WV-113	0.18	0.04	3.35
WV-114	0.10	0.02	0.00
WV-118	0.12	0.01	0.00
WV-121	0.04	0.01	0.00

WV-122	0.12	0.02	0.00
HA-127	0.51	0.18	0.18
HA-128	0.10	0.02	0.00
HA-129	0.05	0.00	0.44
HA-131	0.09	0.01	0.07
HA-132	0.07	0.01	0.00
HA-139	0.90	0.28	4.62
HA-141	0.15	0.03	2.43
HA-144	0.10	0.02	0.00
HA-146	0.14	0.01	0.68
WV-161	0.14	0.02	3.20
WV-162	0.08	0.01	1.69
WV-180	0.06	0.00	4.37
WV-182	0.00	0.00	0.45
WV-194	0.00	0.00	0.01
WV-195	0.22	0.02	0.45
WV-199.1	0.06	0.01	0.00
CHAO	0.34	0.03	1.57
PF01	0.33	0.01	2.32
PF5	0.57	0.04	1.63
SWB25	0.84	0.13	2.20

Standard Deviation Siderophore	Average Antagonism	Standard Deviation Antagonism
0.00	0.00	0.00
0.00	0.00	0.00
0.01	0.15	0.01
0.07	0.90	0.10
0.05	0.11	0.01
0.00	0.05	0.00
0.00	0.00	0.00
0.10	0.00	0.00
0.38	0.85	0.10
0.00	0.66	0.03
0.00	0.13	0.02
0.01	0.00	0.00
0.17	0.56	0.03
0.00	0.00	0.00
0.00	0.05	0.00
0.00	0.18	0.02
0.36	0.60	0.09
0.01	0.42	0.05
0.00	0.57	0.07
0.03	0.53	0.05
0.05	0.11	0.03
0.00	0.07	0.01
0.00	0.00	0.00
0.00	0.07	0.01
0.00	0.94	0.19
0.05	0.97	0.02
0.00	0.00	0.00
0.00	2.08	0.06
0.00	0.31	0.01
0.01	0.24	0.04
0.01	0.92	0.00
0.04	0.00	0.00
0.13	0.27	0.02
0.01	0.63	0.06
0.01	0.07	0.02
0.00	0.00	0.00
0.00	0.00	0.00
0.15	0.75	0.00
0.03	0.57	0.04
0.07	0.66	0.09
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

0.00	0.30	0.01
0.01	0.15	0.01
0.00	0.00	0.00
0.03	0.57	0.04
0.01	0.16	0.02
0.00	0.94	0.19
0.22	0.98	0.12
0.17	1.70	0.05
0.00	0.00	0.00
0.03	0.11	0.01
0.06	0.93	0.13
0.05	0.15	0.01
0.07	0.35	0.07
0.06	1.21	0.12
0.01	0.24	0.04
0.24	0.12	0.02
0.00	0.85	0.11
0.03	2.17	0.24
0.09	2.38	0.09
0.03	2.17	0.32
0.05	2.96	0.10

Average Auxin Production	Standard Deviation Auxin Production	DAPG	HCN	Host
0.00	0.00	No	No	HA
11.34	0.00	No	No	HA
0.00	0.00	No	Yes	HA
1.32	0.00	Yes	No	HA
0.92	0.00	No	No	HA
0.62	0.00	No	No	HA
1.80	0.00	No	No	HA
0.46	0.00	No	No	HA
0.00	0.00	Yes	No	HA
2.66	0.00	No	No	WV
18.50	0.00	No	Yes	WV
1.92	0.00	No	No	WV
2.64	0.00	Yes	No	WV
1.53	0.00	No	No	WV
0.62	0.00	No	No	WV
0.00	0.00	No	No	WV
1.56	0.00	Yes	No	WV
11.61	0.00	No	No	WV
0.00	0.00	Yes	No	HA
2.78	0.10	Yes	No	HA
13.97	0.00	No	No	HA
0.07	0.00	No	No	HA
0.07	0.00	No	No	HA
0.07	0.00	No	No	HA
0.00	0.00	No	No	HA
1.85	0.00	Yes	No	HA
1.53	0.00	No	No	HA
9.20	0.00	Yes	Yes	HA
0.36	0.00	No	No	HA
0.00	0.00	No	No	HA
11.17	0.00	No	No	WV
46.24	0.00	No	No	WV
1.93	0.00	Yes	No	WV
0.73	0.00	No	No	WV
0.76	0.00	No	No	WV
0.00	0.00	No	No	WV
0.00	0.00	No	No	WV
1.43	0.00	Yes	No	WV
0.00	0.00	Yes	No	WV
2.59	0.11	Yes	No	WV
1.45	0.00	No	No	WV
0.00	0.00	No	No	WV
0.00	0.00	Yes	No	WV

0.36	0.00	No	No	WV
0.00	0.00	No	Yes	HA
1.26	0.00	No	No	HA
0.00	0.00	Yes	No	HA
0.19	0.00	No	No	HA
0.00	0.00	No	No	HA
1.52	0.00	Yes	No	HA
0.00	0.00	Yes	No	HA
1.26	0.00	No	No	HA
0.92	0.00	No	No	HA
1.32	0.00	Yes	No	WV
1.85	0.00	Yes	No	WV
1.26	0.00	Yes	No	WV
1.30	0.00	Yes	Yes	WV
0.00	0.00	No	No	WV
1.86	0.00	Yes	No	WV
0.00	0.00	No	No	WV
0.00	0.00	No	No	Known PGPB
0.00	0.00	No	No	Known PGPB
0.00	0.00	No	No	Known PGPB
0.00	0.00	No	No	Known PGPB

OTU	Functional Group	Phosphorus (Average Z-Score)	Auxin Production (Average Z-Score)
High-frequency	Phosphorus	1.50	-0.50
HA Exclusive	Auxin	-0.49	1.50
HA Exclusive	Phosphorus	1.40	-0.96
HA Exclusive	Siderophore	-0.82	-0.11
High-frequency	Auxin-Siderophore	-0.82	1.04
HA Exclusive	Auxin	-0.32	1.48
HA Exclusive	Auxin	-0.47	1.50
High-frequency	Auxin-Siderophore	-0.85	1.10
HA Exclusive	Siderophore	-0.57	-0.62
WV Exclusive	Auxin	-0.66	1.45
High-frequency	Auxin	-0.50	1.50
WV Exclusive	Auxin	-0.53	1.50
WV Exclusive	Auxin-Siderophore	-0.83	1.15
WV Exclusive	Auxin	-0.29	1.48
WV Exclusive	Auxin	-0.32	1.48
WV Exclusive	Antagonism	-0.56	-0.56
WV Exclusive	Siderophore	-0.73	-0.04
High-frequency	Auxin	-0.53	1.50
HA Exclusive	Antagonism	-0.34	-0.66
High-frequency	Auxin-Siderophore	-0.66	0.84
High-frequency	Auxin	-0.52	1.50
HA Exclusive	Auxin-Antagonism	-0.13	0.78
HA Exclusive	Phosphorus-Auxin	0.70	1.02
HA Exclusive	Auxin-Antagonism	-0.13	0.78
HA Exclusive	Antagonism	-0.40	-0.55
HA Exclusive	Siderophore	-0.75	-0.13
High-frequency	Auxin	-0.29	1.48
High-frequency	Auxin	-0.79	1.47
HA Exclusive	Auxin-Antagonism	-0.47	0.97
HA Exclusive	Antagonism	-0.54	-0.54
High-frequency	Auxin	-0.55	1.50
WV Exclusive	Auxin	-0.50	1.50
WV Exclusive	Auxin	-0.69	1.46
WV Exclusive	Auxin-Antagonism	-0.95	0.99
WV Exclusive	Phosphorus-Auxin	0.67	1.00
High-frequency	Phosphorus	1.50	-0.50
High-frequency	Phosphorus	1.50	-0.50
WV Exclusive	Siderophore	-0.77	-0.14
WV Exclusive	Siderophore-Antagonism	-0.77	-0.93
High-frequency	Auxin-Siderophore	-1.00	0.59
WV Exclusive	Auxin	-0.40	1.50
High-frequency	Phosphorus	1.50	-0.50
WV Exclusive	Phosphorus	1.50	-0.50

WV Exclusive	Auxin-Antagonism	-0.46	1.01
HA Exclusive	Phosphorus	1.40	-0.96
HA Exclusive	Auxin	-0.39	1.50
HA Exclusive	Siderophore-Antagonism	-0.77	-0.93
HA Exclusive	Auxin-Antagonism	-0.63	1.11
HA Exclusive	Antagonism	-0.40	-0.55
HA Exclusive	Siderophore	-0.63	-0.27
High-frequency	Siderophore-Antagonism	-0.77	-0.90
HA Exclusive	Auxin	-0.39	1.50
HA Exclusive	Auxin-Siderophore	-0.80	1.14
WV Exclusive	Siderophore	-0.97	-0.06
High-frequency	Auxin-Siderophore	-0.90	0.95
High-frequency	Siderophore	-0.74	-0.13
WV Exclusive	Auxin-Antagonism	-1.19	0.90
WV Exclusive	Antagonism	-0.54	-0.54
WV Exclusive	Auxin	-0.54	1.48
WV Exclusive	Antagonism	-0.40	-0.55
Known PGPB	Siderophore-Antagonism	-0.67	-1.00
Known PGPB	Siderophore-Antagonism	-0.73	-0.99
Known PGPB	Siderophore-Antagonism	-0.53	-1.11
Known PGPB	Siderophore-Antagonism	-0.49	-1.13



Siderophore (Average Z-Score)	Antagonism (Average Z-Score)
-0.50	-0.50
-0.51	-0.51
-0.15	-0.28
1.44	-0.50
0.67	-0.89
-0.67	-0.50
-0.51	-0.51
0.59	-0.85
1.49	-0.30
-0.66	-0.14
-0.51	-0.49
-0.43	-0.53
0.52	-0.85
-0.56	-0.64
-0.67	-0.50
-0.38	1.49
1.43	-0.65
-0.50	-0.47
-0.49	1.49
0.87	-1.05
-0.47	-0.51
-1.37	0.72
-0.86	-0.86
-1.37	0.72
-0.55	1.50
1.45	-0.57
-0.56	-0.64
-0.35	-0.32
-1.17	0.68
-0.42	1.50
-0.55	-0.40
-0.49	-0.50
-0.15	-0.61
-0.77	0.72
-0.55	-1.12
-0.50	-0.50
-0.50	-0.50
1.45	-0.55
0.62	1.08
1.09	-0.68
-0.55	-0.55
-0.50	-0.50
-0.50	-0.50

-1.17	0.63
-0.15	-0.28
-0.55	-0.55
0.62	1.08
-1.03	0.55
-0.55	1.50
1.48	-0.58
1.15	0.53
-0.55	-0.55
0.54	-0.88
1.39	-0.36
0.78	-0.83
1.45	-0.59
-0.46	0.75
-0.42	1.50
-0.27	-0.67
-0.55	1.50
0.54	1.13
0.84	0.88
0.54	1.09
0.53	1.10